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sends a Christmas Message of

Goodwill and best wishes

for a Happy New Year

The Canadian Nurse and Hospital Review

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The Deficiency Diseases of Infancy and Childhood

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(Read before the Ontario Medical Association, Toronto, June, 1917)

The term "vitamines" was introduced by Casimir Funk in 1912 to designate certain organic bases, the importance of which was recognized as the result of experimental studies on beri-beri. It was demonstrated that the ætiology of the peculiar disease was associated with the lack of the above substance in foods, which has been deprived of the important elements contained in the outer layer or husk of the grain of cereals by too extensive milling, or by the consumption of a diet subjected either to prolonged heating or heating under pressure.

The name "vitamines" has been applied to these substances for two reasons. In the first instance they are undoubtedly proven to be indispensable to life. It is not exactly known what their physiological function is, but the assertion that they are indispensable is an indisputable fact. In the second place they belong to the class of organic bases exhibiting certain specific chemical characters. A better plea cannot be brought forward in support of the appellation vitamine than by referring to the well-known fact that an animal is able to live longer when food is withheld altogether than when all the known constituents of a diet, with the exception of the vitamines, are supplied to it.

The chief chemical properties so far observed are that they are isomers of adenine and soluble in alcohol readily obtainable from yeast

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through precipitation with a colloidal hydrate aluminum silicate preparation known as Lloyd's reagent. The various vitamines are destroyed by different degrees of heat and hence become inactive.

With regard to the physiology of the vitamines, it cannot be explained as yet why these substances are so indispensable to the animal organism, but certain facts in this connection which have been gathered so far must be mentioned. First, Funk found that animals fed on white rice showed very marked changes in the chemical composition of the brain. This finding is possibly important, as the most characteristic feature of deficiency diseases is a group of symptoms arising from the central nervous system. It is possible that these changes are due to the half-starved condition of the animals. Another important fact which was discovered a short time ago is that a definite relationship exists between the onset of certain deficiency diseases and the amount of carbohydrates consumed. It was already known for some time to those who had studied beri-beri from the clinical standpoint that with an increase in the consumption of polished rice the onset of the disease can be hastened. It is also known that deficiency diseases in childhood (especially rickets and tetany and probably scurvy) occur when proprietary foods consisting chiefly of starch make up the bulk of the dietary; this observation we have fully confirmed in the wards and laboratory at the Children's Hospital.

With regard to the influence of vitamines on metabolism some important facts are known. Although the measure of their importance on metabolism is at present obscure, active experiments have demonstrated that in the absence of vitamines the entire metabolism of organic and inorganic constituents goes wrong, especially is the relationship between the $\frac{NA+K}{CA+MG}$ interfered with.

In the various researches in diseases of children of to-day, no group of abnormal conditions has received such intensive study as rachitis, scurvy, tetany, osteogenesis-imperfecta, infantile beri-beri and pellagra; these diseases, especially the first four, class themselves under the one heading, deficiency diseases, as they are more or less inter-related ætiologically, possess a striking similarity in symptomatology, and respond to a greater or lesser degree to an allied therapy.

Up to the age of six or seven months, in many cases longer, an infant is fed exclusively on milk. Under normal conditions there is no doubt that mother's milk is an ideal infant's food, but in these days the force of circumstances or numerous other factors, not ordinarily granted much deserved attention by the medical attendant, may so change the composition of the mother's milk that it ceases to be a complete food. This failure to be a complete food cannot so far be demonstrated in the laboratory by the ordinary chemical analysis, an analysis to which so many practitioners have attached so much importance. One need not go further than to observe the well-known fact that frequently, during pregnancy and lactation, mothers will desire and seem to exist upon a

diet which is badly chosen from the standpoint of our recent knowledge of modern physiological standards. We are all ready to admit that frequently these abnormal cravings are in the direction of articles of diet which have a very doubtful matrimonial value and, from our standpoint also, very doubtful powers of maintaining a metabolic balance. May we not, therefore, analyze the congenital deficiency diseases, or those appearing soon after birth in breast fed babies, as deriving causative faction from the deficient maternal diet just referred to. Sufficient analyses of much milk have been made, however, in the case of mothers where nursing infants have died from infantile beri-beri, to show that the lacking factor in the diet cannot be a deficiency in proteins, inorganic salts or even fat, and, as the infantile malady can be cured precisely like the adult type by an administration of an extract of rice polishings, it seems logical to conclude in the light of present knowledge that the two are caused by a deficiency of the so-called vitamines. It is likewise probably true that the maternal organism is unable to synthesize vitamines unless they are supplied in the food to the lactating mother. These important facts are not generally known by those who have developing and growing children in charge, and as a result we have a deficiency in the metabolic requirements in many breast-fed infants, with scurvy or rachitis, or both, as frank manifestations and "difficult feeding cases" with even less understood ætiology as more occult manifestations. The above facts are also in perfect agreement with the plentiful evidence that the deficiency diseases of later life, markedly osteomalacia, occur more frequently in the female and more especially during the child-bearing period. We can easily verify all these facts by the animal experiments which have been reported by many observers. Unusual physical exertion also requires not only additional calories but also additional vitamines, and especially is this true when unusual demands are made upon the powers of the carrying or nursing mother. Pigeons, if forcibly exercised and plentifully fed on polished rice, develop severe symptoms of beri-beri, while controls at rest and on the same diet during the same period of time remain far less affected; in fact pigeons at rest may remain free from any discernable symptom of beri-beri for an unusually long time even though fed on an exclusive diet of polished rice, and then, if suddenly exercised, will develop all the symptoms of beri-beri in a few moments.

From these observations we will now pass to the consideration of the artificial feeding of infants on modifications of whole cow's milk, and in handling this problem there are two main points of consideration. First, when milk is subjected to certain degrees of heat either by sterilizing or pasteurizing, experiments recently conducted go to show that the destruction of vitamines or growth element content is destroyed at certain degrees of temperature. Neumann and Heubner conducted investigations years ago which showed conclusively that infants fed on pasteurized milk entirely may develop scurvy. These researches were disregarded for a number of years, in fact their results were questioned by

some for a long time. To-day the same evidence which was brouhgt forward by Neumann and Heubner is finding growing acceptance. The fact that orange juice might be given as early as the first month with benefit was admitted by several observers years ago. Recent evidence tends to show that in over-heated milk the factor which disturbs the normal metabolic processes of the nursling is not a chemical change in the casein or other protein of the milk as McCallum believes, but is due, as has been proven by recent observations, in which the author in conjunction with Dr. George Smith has been particularly interested, to the inactivation of a definite substance in raw milk which prevents pigeons fed on polished rice from developing beri-beri in the usual length of time. Undoubtedly a vitamine. Secondly, the growth element content of cow's milk is by no means a constant factor; it is entirely dependent on the same, or at any rate similar conditions among cows, as has just been discussed in regard to nursing mothers. More particularly does this deserve our attention when we recall that in the summer the cows, or other milk-giving animals, gain their supply of fresh food directly from pasturage, while in the winter the food has been subjected to drying, curing and storage, all tending toward inactivation of the vitamine content. Actual epidemics of deficiency diseases among calves and then cows have been described by Lötsch as occurring during winter in the poorer districts of Switzerland. There is no doubt that if more attention were centred upon these facts that many cases of rickets, as well as some of the other deficiency diseases, would find an ætiology more definite than that with which they are at present dismissed.

Passing to the child of runabout age, why is it that the deficiency diseases are still manifest when food other than a pure milk dietary is offered? Highly milled cereals cooked interminably, to say nothing of the amount of starch solutions already forming the diluents of feeding formulas, were previously prescribed in most cases. Actual experiments upon rats fed with certain of the so-called patent foods have proved beyond doubt that most of such preparations are not sufficient to maintain life, to say nothing of promoting growth, though they contain enough protein substance with all the "necessary amino acids" as laid down by Osborne and Mendel. One may argue that the results obtained in rats may not apply to human beings. Granting that, we still learn that something is missing in certain of these foods, a something which was probably destroyed in the process of its manufacture, since the test animals thrive very satisfactorily if they are fed with the raw materials from which most of these foods are made, or else if some adjuvant containing the missing substances is added to the baby food. The "missing substance" is contained in fruit juice and yeast, and both must be administered to make a complete food for the rat. In the added fact that babies fed on the above food, exclusively, are the commonest victims of the deficiency diseases, especially rachitis and scurvy and tetany, we have the "evidence before the fact," as the lawyers put it.

Now we know from the researches of Funk that the foremost functions of the vitamines are to influence carbohydrate metabolism, especially that of the starches, and that when this substance, or these substances, are not present in proportionate amount to the increased starch content of the dietary, the metabolism fails, its balance is destroyed, and the patient suffers from the minor or major manifestations of disturbed nutrition or growth, entirely independent of the caloric value of his food intake or its inorganic constituents. Be it in its mildest form of so-called "difficult feeding cases" or in the severest form of rachitis or even death, the cause is the same and the resulting condition simply a matter of degree. What is our problem, therefore? Either to diminish the quantity of carbohydrate, principally the starches, or else to supply substances such as fresh or very lightly cooked vegetables, or certain extracts which are known to obtain a marked excess of these essential substances. To do the former would mean a loss of calories to the child; to do the latter rarely fails to prove of decided benefit. It is held by many of our most prominent students of nutrition that excessive housing or other unfavorable hygienic conditions are prime factors in the production of deficiency diseases, especially rachitis; this belief received a great impetus in the publication of "Kassowitz," in which he put forth his famous "domestication theory" as an ætiological factor of first importance in the production of deficiency disease in animals. Recklinghausen and others could not confirm his observation. Observations upon animals used by Funk in his experiments on nutrition showed them to be in better condition than others living amid better hygienic surroundings. They were found to be nearly double the size of normal animals, gave no signs of deficiency diseases, and their offspring were far superior in vitality and growth to those born to animals living under normal conditions. We do not advance this as an argument against proper hygiene in the care of our babies, for it is certain that had the animals lived amid better hygienic surroundings in addition to their high vitamine diet they would have done even better; what is really to be emphasized is the inadequacy of the theory of poor hygiene as the fundamental cause of the deficiency diseases. All of us have seen rickets amid the best hygienic surroundings, and have failed to find it universal amid the very worst hygienic conditions. The same applies to all the other deficiency diseases. Other things being equal, however, hygiene undoubtedly plays its part in determining their progress and outcome, as it does in all other conditions and diseases with which we are concerned in our daily work.

Lastly, we have the problem of the child with its likes and dislikes toward certain articles of food and the degree to which those who have the child in charge cater to its wishes. Let us take as our examples the children between the ages of two and four years, for after all it is every man's experience that children affected, for instance, with rickets show improvement before the expiration of that period. The explanation is simple if we remember that about this time the diet is varied and includes many fresh foods, such as juices, fruits, fresh vegetables and

the like, which, if not over-cooked, are rich in active vitamines. These substances have, in such cases, again exerted their corrective influence, thereby bringing the metabolic standard up to its proper level. Many children, in spite of this, unfortunately, are permitted an excess of foods rendered poor in active vitamine by overheating; add to this excessive carbohydrate to tickle the palate, crackers, bread, sweets, etc., between meals, or in excess at meals, and we have fertile soil for the development of one or the other of the deficiency diseases. As the origin of a "vicious circle" we find an idle effort made on the part of their attendants, perhaps under professional advice, to offset the evident substandard development of the child by the addition of more of the "foods" just given as samples, thereby not only spoiling their appetite for foods they should have, foods rich in active vitamines, but maintaining the very state of metabolic deficiency which they are attempting to combat. This furnishes us a reasonable explanation for the many cases of over-fed weaklings and "substandards" that we see, and gives us at least a clue as to how to comfort the heart-broken mother who gives her progeny "every care" and "the best of food" and yet fails to bring him up to the standard of the "neighbor's baby" who, by the way, "is not nearly so well taken care of." Cases of "persistent rickets" give us no more difficulties as to ætiology, and many hints as to treatment, if we remember the facts just presented.

A most important fact to note in relation to this discussion is that all of the deficiency diseases enumerated, as well as many allied conditions of similar origin, overlap in their main symptoms. True, certain characteristic symptoms, especially diagnostic of one or the other of the diseases just mentioned, may stand out more prominently in that disease and so mislead one into the belief that no inter-relation exists; but a careful study cannot fail to reveal an undeniable similarity of symptoms, taken as a whole, among apparently dissimilar conditions with correspondingly dissimilar names. All seem to find a common cause in some form of vitamine deficiency in the food. Furthermore, of paramount interest is the fact that each, if studied by means of the metabolism-bed shows a negative balance of the inorganic salts, such as calcium, magnesium, phosphorous, and sulphur. It is not the purpose of this paper to go into the minute symptomatology of each of these conditions at this time, as this has been done many times by others and is sufficiently familiar to all, but it may be of service for the purposes of this paper to point out an overlapping of symptoms in the diseases under consideration. Hæmorrhagic tendencies are most marked in scurvy, less marked in pellagra (though often present to such a degree as to present difficulties in different diagnosis) frequently seen in beri-beri, often seen in rachitis and osteomalacia and have been reported as occurring in cases of osteogenesis-imperfecta. Gastrointestinal symptoms are very common in pellagra, very common in scurvy, always present in beri-beri, and very frequently in rachitis. The nervous system is particularly vulnerable to all forms of deficiency disease. Whether it be a hyper-

irritability, a spasticity, a peripheral neuritis, a central neuritis, or the manifestations take the form of convulsions, of pain or of palsy, they are present to a greater or lesser degree in each and every one of this group of diseases. We need not individualize, but the most superficial comparison of the ordinary disturbances of the nervous system found in one, with those found in another, leave nothing lacking as far as similarity or analogy is concerned; whether the influence upon the nervous system be interpreted as direct or indirect, it reverts to the metabolic deficiency as the basis of it all. Skin symptoms are common to all of these diseases, either in the form of eczema, an urticaria, a dermatitis or purpura, or a combination of two or more of these eruptions may appear at the same time, or in sequence. Obviously no marked improvement will appear in the eruptions until the metabolic deficiency at the bottom of it has been dietetically corrected. Perhaps the successful practice of withdrawing or diminishing the sugar content in the diet of the eczematous child or one with spasm of some portion of the respiratory system with a rachitic basis, may find its explanation in the withdrawal of just so much carbohydrate as overwhelmed the amount of vitamine taken in the daily diet of the child. Chronic or acute changes in the skeleton, especially in the long bones, are too well known and so generally apparent in all of the deficiency diseases that neither space nor time need be given to their discussion here. Blood changes ranging from a simple anæmia of short duration to the very severest blood pictures lasting over long periods, perhaps through life, are common to all of the deficiency diseases depending upon their severity or duration. Changes in the ductless glands have been so marked in practically all of these diseases that reasonably enough the gland disturbance has often been looked upon as the ætiological factor in the disease in which it was affected. Perhaps it is the ductless glands upon which the unbalanced diet works its first havoc and then the abnormal secretion of the particular gland affected determines the nature of the deficiency disease which manifests itself. This is a matter for future research to decide. Vitamines may be substances out of which the ductless gland obtains some element necessary to the elaboration of its specific secretion. Lastly, and perhaps due to cases just cited as speculative, we find in all classes of deficiency disease of one type and another, more or less marked hindrance to the normal growth and development of the entire organism, the degree being dependent upon the duration and previous intelligent efforts made towards a cure. This, after all, is the most important factor to be considered in the case of this class of disturbance.

We now come to the therapeutic principles underlying the management of these cases which also seem to substantiate the writer's belief in their common origin and inter-relation. Regarding scurvy, there is but little to add to what is already known in relation to its successful treatment. We fully recognize the causative factors and have no further doubt as to the value of fresh extracts, especially fruit juices, in the treatment. There never was any question as to the frank cases with

typical symptomatology which were seen at five or six months, but the more recent researches have confirmed the already known facts that an early scurvy, characterized by a deficiency in growth and nutrition without other discernable symptoms, is very common and can be offset by the use of anti-scorbutics as early as in the first month of life. What are the anti-scorbutics? Vitamine containing substances possessing the same general chemico-physical properties as substances containing anti-beri-beri vitamine. Therapeutically and physiologically, in the light of our present knowledge of these substances, there may be a difference between the various vitamines. For example, Hess claims no therapeutic result from the use of autolyzed yeast—a substance containing an enormous amount of the anti-beri-beri vitamine—in the treatment of his cases of scurvy. On the other hand, the author has found that autolyzed yeast has at times some anti-scorbutic and growth-promoting value if used in sufficient dosage. Recent animal experiments carried out by Funk show that, although the vitamine contained in fruit juices is far better adapted for the prophylactic or curative therapeutics of scurvy than the form contained in autolyzed yeast, still there is no doubt that the anti-beri-beri vitamine of autolyzed yeast has some effect as an anti-scorbutic, while fruit juices have some effect on the retardation of beri-beri in pigeons fed on polished rice for the usual length of time. It need not concern us, however, as to whether the vitamine of fruit juice or that of autolyzed yeast influences the condition towards a cure, nor whether a different vitamine is concerned in each case. Suffice it to say that such a substance or such substances are concerned in correcting the deficiency of metabolism known as scurvy. Passing on to the therapy of beri-beri, or what the writer believes to be an identical condition of milder degree "Mehlnahrschaden" in infants kept too long on cereal decoctions, we find a striking analogy in the prompt results obtained from the use of vitamine-containing substances; in these cases, however, the substances contained in autolyzed yeast seem to exert a better influence than that contained in fruit juices. More and more evidence is accumulating from day to day in support of the deficiency basis of pellagra, a condition not as uncommon in children as may be supposed. The ætiology of this affection which seems to stand the test of experience the best was thoroughly worked out and described in Funk's book "Die Avitaminosen" and has more recently been verified by Goldberger's work.

We now come to the consideration of rickets and such allied conditions as osteogenesis-imperfecta and osteomalacia, for, after all, if we study the conditions under which the last two diseases appear, and also study their main symptoms, we find that the time of life at which they appear plays the main rôle in differentiating them as pathological entities. Osteogenesis-imperfecta is most active in the formative or fœtal period, rickets is most common in the growing period, and osteomalacia in the adolescent or adult period, when new functions or requirements are suddenly thrown upon the metabolism without proper precautions. All

three at periods when a more active metabolism than merely vegetative becomes a necessity. Now, if we are willing to accept these last named conditions as deficiency diseases upon completely the same footing as we do scurvy, beri-beri and pellagra, we shall come far nearer an ultimate solution of the most complex problems which they may present than from any other standpoint. Furthermore, if we accept them as avitaminoses, as Funk has suggested some years ago, we will find ourselves still closer to a solution of the ætiology and, therefore, therapy of the condition. From the very earliest days since the recognition of richitis as a pathological entity, cod liver oil has been considered the most efficient remedy in the treatment of the disease. To this remedy were added the various adjuvants in the way of mineral salts, believing thereby to supply them for use to the tissues, failing, at the same time, to appreciate the fact that in the overwhelming majority of cases the tissues were receiving through the food an ample supply of these salts, but that the trouble lay in the fact that owing to some grave fault in the body economy they were not able to retain them. As time went on results obtained from cod liver oil were not as uniformly encouraging as the earlier reports seemed to indicate. Among the various explanations of this discrepancy of result, none seems more rational to the writer than the probable destruction of vitamines as the result of the manifold processes of refinement to which cod liver oil has been more recently subjected. The crude oil has been proven by actual experiment upon the various animals to contain a very considerable proportion of an exceedingly active vitamine, which vitamine is either partially or totally inactivated by the various processes of refinement and has been demonstrated in some of the discarded fractions of the oil. Funk has shown that a fraction which he has isolated from the crude oil, and which is in many cases absent in the highly refined oils, is curative of beri-beri in pigeons and preventative of a condition identical with rachitis found in chicks. In judging the value of vitamine therapy in rachitis, one must bear in mind that we are dealing with deficiency of metabolism very much more chronic than in the case of scurvy or beri-beri, and, therefore, the symptom complex is much slower in developing than in the other conditions mentioned; furthermore, in the cases of longer standing the anatomical mal-developments resulting from abnormal growth, as an aftermath of an undue proliferation with or without subsequent resorption of what would otherwise be normal cell or tissue constituents, produce deformities or weaknesses which only time can, to a greater or lesser degree, under favorable conditions, regulate by compensatory growth. Cases of rachitis in which tetany is present respond especially well to an increase in daily vitamine intake. Excessively cooked foods should be avoided. Vegetables should rarely be cooked over twenty minutes, and always served with the fluid in which they are cooked, to conserve the valuable vitamine containing substances as well as those inorganic salts soluble in the liquor. Disproportionate amounts of carbohydrate foods should be guarded against unless balanced by the presence of a sufficient quan-

tity of other fresh foods. Maternal regulations are especially important in cases of breast-fed babies where evidence of metabolic deficiency show themselves; in short, either a correct diet for the mother or else some form of vitamine, perhaps in the form of autolyzed yeast, may be directly administered to the nursling. In the case of artificially fed infants the early addition of vitamine containing substances and a very decided decrease of the amount of highly-milled over-cooked starchy foods is to be recommended. The important vitamine of orange juice should never be neglected, even at one month, as a prophylactic against scurvy and perhaps even against rickets. Egg yolk, coddled, in gradually increasing doses beginning as early as the sixth month, if necessary, is an important vitamine containing substance often omitted on account of a possible anaphylaxis which some children have against egg albumin. There is no recorded case of anaphlaxis against egg yolk as far as the writer has been able to find out, either in his own experience or in that of others. If infants refuse the yolk pure, it may be combined with a cereal, and no difficulty will arise, especially if we begin with a small amount. Large amounts of cereals should not be administered unless egg yolk or vegetable juices lightly cooked are administered at the same time. Beginning with the eighth or ninth month, to maintain a metabolic balance and to prevent a condition of which under-development as an example of rachitis is typical, the child should receive mixed purées of various vegetables properly blended, with the addition of sufficient carbohydrate and fat to make a "balanced ration."

As a result of careful investigation as to the diet of mothers who have rachitic children, and especially those who have had other children who have had some form of deficiency disease, and furthermore, as to the diet of women during pregnancy, or during lactation, Stark, of New York, has come to the opinion that the tendency toward deficiency disease, if not the disease itself, is inculcated "in utero." The negro and Italian in this country give us all the evidence necessary to give this theory a very sound basis to rest upon. We need not here go into the dietary of the negro and Italian; its peculiarities, especially as to excessive carbohydrate constituents and excessive stewing with lack of fresh foods are familiar to any one caring to make a study of a series of these mothers and their babies. The varied results obtained in some of our larger foundling institutions and nurseries, and even one's private experience with feeding formulæ, find an explanation in this predisposition to deficiency disease on the part of some infants. One child will thrive beautifully on a diet which would give another rickets. Another child will gain half a pound a week on what apparently starves another of the same age. In the former, the child's economy is well within the safety zone of metabolic stability, as a result of a properly proportioned diet of the mother during pregnancy, and so furnishes enough vitamine from the full supply with which it was born to counterbalance an excess of carbohydrates in his formula, and his tissues grow and perform their functions. In the latter, the child has an unstable metabolic balance,

owing to the improper selection of the maternal diet, and therefore cannot supply the necessary vitamine from its own economy, since it has none to spare; the metabolism is upset, a negative balance of the inorganic salts results, valuable food constituents are not retained by the tissues, the child either develops a deficiency disease, or simply fails, and the more we "strengthen" its formula by adding carbohydrates (even if the other constituents are also added) we simply make things worse. The solution lies in adding a vitamine-containing substance.

This brings us to the next important consideration. In the absence of ideal conditions whereby sufficient active vitamine can be obtained from properly prepared fresh vegetables, eggs and the like, it remains for us to obtain a substance rich in active vitamine and at the same time stable and constant in efficiency.

In reviewing the literature on the use of yeast as a therapeutic measure, we are led back to the very dawn of medical history. Schaumann was the first to show that brewer's yeast displays what was then called "antineuritic properties" for pigeons and other fowls fed on polished rice. He noted that this yeast was far richer in these properties than were other substances which he had investigated. Funk was able to show that the substance in question is of simple chemical nature since hydrolysis with acids strong enough to break down all the complex substances known in the nature resulted in the isolation of an active substance which he called "vitamine." Chamberlain, Vedder and Williams, and also Vœgtlin and Towles went even a step further and ascertained that the hydrolysis yielded a more active preparation than a simple extraction of the yeast. Finally Cooper, by leaving pressed yeast in an incubator for about thirty hours at body temperature, obtained an hydrolysis by means of the inherent ferment present in the yeast cell similar to that produced otherwise by an extraneous acid as Funk had done. This constitutes what is known as the sutolysis of yeast, and the resulting product is known as autolyzed yeast. Owing to the enormously active metabolism of the yeast plant itself, it contains perhaps the greatest amount of active vitamine per bulk of substance of any product thus far known. When filtered, the filtrate may be standardized as to vitamine content and, therefore, dosage by noting the average time it takes to cure a number of beri-beri pigeons when 0.10 c.c. is injected sucutaneously, as compared with the known time required by a standard vitamine preparation to produce the same result. We have, therefore, a standardized substance which, to be sure, has not been definitely determined upon as to maximum and minimum dosage, but which should possess special advantages for the pediatrist, not only in the care of his cases of deficiency diseases, especially rachitis, since that is not so common, but alway in his management of stubborn feeding cases. With these facts in mind it might seem desirable, at the present stage of our knowledge, to administer this substance in selected cases in much the same way as we do fruit juices, that is to say, as a prophylactic against

deficiency diseases in our difficult infant feeding cases, instead of jumping about and modifying formulæ with no other hope than that "perhaps we might strike it right. The multiplicity of feeding systems now in vogue, and changing with every man's opinion, leaves us no doubt that the element of chance and the kindness of Mother Nature are two forces which make infant feeding an "art" rather than a "science," at least until we are willing to accept other substances than proteids, fats, carbohydrates and inorganic salts as essential to success along these lines. With the acceptance of the foregoing as a basis for further research and observation, there seems little reason to doubt that a great step will have been made toward the better understanding of some difficult problems of infant feeding and also lead to a greater opportunity for the study of the principles which underlie the various deficiency diseases.—*The Canadian Medical Association Journal.*

"In Flanders' Fields"

By Lieut.-Col. John McCrae

The following poem is considered by some to be the finest poem of the war. Lieut.-Col. McCrae is a Canadian. He was born at Guelph, Ont., and graduated in Arts and Medicine at Toronto University. At the outbreak of the war he was Associate-Professor of Pathology at McGill University. His brother is Professor of Medicine at the Jefferson Medical School, Philadelphia. When war was declared, Lieut.-Col. McCrae, who was a veteran of the South African War, was in England, and at once volunteered for the front. He was attached to an artillery unit of the service and saw all the heavy fighting. Later he was put in charge of a base hospital. The poem was originally published in *Punch*, London:

"In Flanders' fields the poppies grow
Between the crosses, row on row,
That mark our place; while in the sky
The larks, still bravely singing, fly
Unheard amid the guns below.

"We are the Dead! Short days ago
We lived, felt dawn, saw sunset's glow;
Loved, and were loved; and now we lie
In Flanders' fields.

"Take up our quarrel with the foe!
To you from failing hands we throw
The torch—be yours to hold it high!
If ye break faith with us who die,
We shall not sleep, though poppies grow
In Flanders' fields!"

Work in France

By Helen B. McMurrich, R.N.

We had the good fortune of having an opportunity to spend a week at Compiegnes, in order to learn the Carrel Treatment, of which so many are speaking just now. Researches were made in the laboratories maintained at Compiegnes by the Rockefeller Foundation and at l'Hospital Temporaire No. 21, established by the Service de Sauté Militaire.

The chemical laboratory was directed by an Englishman by the name of Henry D. Dakin, the result of which work has been the founding of the method of sterilization of wounds. Mr. Dakin was assisted in the biological part of this work by Mr. Daufresne and Mme. Carrel.

Mr. Daufresne continued in making chemical researches, and now the preparation that is used for the sterilization of wounds by means of the Carrel method is known as the Dakin Solution (Technique de Daufresne).

As soon as possible after admission of patients there is mechanical cleansing of the wound, followed by surgical treatment. Following this the chemical sterilization of the wound is brought about by the intermittent instillations into every particle of the wound of an antiseptic liquid, which is carried there by means of small rubber tubes.

The liquid, which moistens the tissues, is absorbed by the dressing. The instillation thus practised permits of the constant renewal of the liquid which keeps every part of the wound wet.

The little tubes are attached to a glass connecting tube (with one, two and three glass branches), which connects with a larger rubber tube, at the other end of which is the ampoule containing the solution. The ampoule, or irrigating can, is attached to the wall near the patient's bed. The *pinch de mohr,* or clamp attached to the larger tube, is pressed by the nurse three times (as one counts, 1, 2, 3) every two hours, during which time *only* the solution flows.

This procedure differs very much from the former continuous irrigation, in that it is much simpler and the liquid is carried directly to the deepest recesses of every wound.

Wounds are dressed, as a rule, every morning. There are no compresses placed in the wounds. A small dressing may be used to hold the tube or tubes in place, but that is all.

The only covering of the wound is a large-sized dressing, made of one thin layer of absorbent and one of cotton wool, covered with gauze, this being held in place by means of two or three safety-pins, and sometimes a gauze bandage.

In order to protect the flesh around the wound from being burned, vaseline compresses are laid on before the dressing is applied. These

consist of layers of gauze soaked in liquid vaseline and then sterilized. When preparing this, a box of it is done at a time. When ready for use, it looks like so much solid vaseline, but one layer of the gauze can be pulled off at a time and applied. It is marvellous how it protects the skin. A culture is taken from the wound every two or three days.

When the smear only shows one microbe in every five or six fields, the wound is considered sterile and the surgeon can suture it. The results have been simply marvellous. I am enclosing a copy of the schedule we had; it may be of interest to you. In the morning we attended the clinic in the ward assigned to us and remained there until all the dressings were done. In addition to the schedule, we saw many colored plates showing wounds from day of admission until absolutely healed. Everything pertaining to the treatment is minutely explained in the text-book we used entitled "Le Treatment des Plaies Infectées," by A. Carrel and G. Debelly; published by Masson & Co., 1917.

MISSION SPECIALE DU DR. CARREL		STAGE DES INFIRMIERES—EMPLOI DU TEMPS
		Soir de 2 hr. ½ à 3 hr. ½
Lundi	**Compiégne Malin Salle des Blessés**	Cours: Notions générales sur les antiseptiques—Pourvoir Microbicide principe de la disinfection de plaies par l' irrigation continue.
Mardi	"	Travaux Pratiques: Préparation des objet—Nécessaires aux Pausements—Sterilization.
Mercredi	"	Cours: Préparation de la Solution de Dakin—son Titrage Ses propriétiés. Ses effet sur les plaies infectèes.
Jendi	"	Travaux Pratiques Préparation de Solution et son titrage.
Vendredi	"	Cours: Irrigation: Despositif notions sur les pausements—appliqués sur les plaies.
Samedi	"	Cours: Etude Bacteriologiques des plaies. Evolution de l'infection. Practique des prélevements—Préparation des lavees—Coubes microbienne.
Dimanche	"	Recapitulation et interrogation.

When in Paris we hope to learn more about the treatment of burns by means of the applications of ambrine; also the Meuciere treatment of wounds, which is carried on at the Grand Palais—now a huge hospital.

He is happy whose circumstances suit his temper; but he is more excellent who can suit his temper to any circumstances.—HUME.

En Route for France

By Jessie Leitch, C.A.M.C.

Even being "warned" for France leaves one unprepared for that delicious sense of "unreality" that comes as one stands on deck and watches that fascinating strip of widening water—shoreward; and if one is so fortunate as to be sent to France on a wonderful May afternoon, there is much to be said of the Channel, of England, and of France in May time. With the scent of wild broom blowing along the cliffs, and the green fields powdered with daisies and buttercups, and the hawthorne trees all-rosy bloom against the bluest sky in the world, England looked like the incarnation of Spring as our boat slipped across to France. And because one doesn't realize till that last moment that "Blighty" is a very friendly place, after all, we turned our attention to our companions on deck and wondered if we were "big enough" for France.

The crowd on deck was so familiar that a vivid memory of our Big Trip last year came back with a rush. Officers by the dozen, but not a familiar face. A few red-tabbed, grey-haired men with the keen eyes and stern faces and somehow associates with previous wars—and sure enough, they wore the colorful ribbons of the South African War. There were a few "bird-men," slim and alert; a sprinkling of "Subs" and our little party of nursing sisters—strangers, more or less—except for the badge of a common cause.

It was a short trip—not quite two hours—but the turquoise blue of the sea, which was fairly choppy, and the tang of the salt air, toegther with the screaming of the gulls that circled overhead, made it a most realistic and thrilling little expedition; and suddenly, out of the water ahead, rose the cliffs of France, gleaming white and gold-tipped in the sunset. France at last! Warm as July, with green hills stretching back to the sky and a harbor all red and orange light, beside the old stone pier. A throng of curious soldiers watched our arrival, the light blue uniforms and the red caps and sashes of the Zouaves (French Infantry corps) looking strange and unfamiliar to our khaki-accustomed eyes. There were peasants on the pier, too, in sabots and jeans and smocks, making a note of local color in keeping with the chimes of the Angelus, which the bells in the old cathedral were ringing, far up the steep, stone street.

So we stepped on to French soil, with a foreign language in our ears and much the same sensation, I imagine, as a Chinaman when he first lands in America. We walked to our hotel, and any difficulty we had anticipated was promptly dispelled by a brisk woman at the desk, who talked French and English in one breath and registered us and changed our money into piles of francs, which made us feel very rich,

until we found that our dinner cost ten francs, and everything, including our rooms, was extreme!

Everything in France is done in a hurry. Four "Sisters" were literally pushed into a room by a violently gesticulating porter, who seemed to be wearing a kitchen apron, but I think it was a "smock," and colorful! There were three high beds covered with three cerise eiderdowns that looked like enormous pans of cherry tarts, and a funny little gilt chair was marooned in the centre of the room, and a carpet, like a sheet of sunlight, on which a daring weaver had spilled a garden full of roses! A little startling, also disappointing, as it was only a property chair, and we laced our boots next morning sitting on the floor. A day's delay, owing to a shed-full of luggage which we insisted on taking with us, gave us a day of sight-seeing in Boulogne; and at 6.30 next morning we almost missed the Paris train. A hospital train had just come into the station, and, as we made our way along a platform littered with stretchers, our first acute realization of being in the war zone came home to us. Poor, clay-splashed men, all in khaki and bandaged and splinted, and wearing the famous Blighty smile! Are they down-hearted? Never! A woodbine and the knowledge that one is bound for England is nothing to be down-hearted about, so they say. A man with his head bandaged was turning restlessly on his stretcher, and someone, thinking he was in great distress, stopped to ask what she could do for him. "Sister, could you—do you happen to have a match, I want to light my fag," he said, half apologetically. Sister had a match, but she nearly missed her train holding the match for him, for one arm, too, was bandaged! But these are the human touches that enable us to "carry on" and to smile cheerfully at our wounded, knowing full well that they will smile back.

After the rather uncertain odors of Boulogne—for France is full of remarkable odors—the first thing we noticed was the wave of fragrance floating in the car window from the fields and farms, the sweetness of fruit blossoms. We may sing of apple blossom time in Normandy, but here, where the sunlight and blue sky and flowering orchards hold high carnival, and peach trees bloom against red brick walls, and green cornfields shimmer across the country, it is entrancing. After miles of such beauty had slipped past, we sat silent—words are so idle.

Once on a green hillside we passed hundreds of sick horses and mules—a convalescent hospital for army horses! To see these poor wrecks wobbling round on nice green grass, with big stacks of hay and canvas shelters, and men sitting round a pump to draw water for them, made one feel that the world was doing the right thing by the army horses as well as by the men. At noon time our train went for some miles along the Somme Canal. Its banks were fringed with overhanging trees; chestnuts and silver birch and trailing willows reflected in the cool, green water of that quiet canal. Along the banks blue flags and yellow iris gleamed in patches, and big grey hospital barges for the wounded,

with a crimson cross on the side, floated quietly down stream. How the wounded boys must love those cool, green canals, after the days and nights they spend in the firing line, where every God-given growth is shell-shot and blackened and burnt! We passed through Amiens, with its quiet green woods, and wondered how it had resumed such a normal appearance after all we read of the fighting in the Amien woods early in the war.

Of Paris, which we reached at dinner time, there is so much to say that I must say nothing now. It is a city one associates with history's blackest pages, and yet it is a fair city, the most beautiful, I truly believe —if one can give up the conviction that Venice is the Queen City—in the world.

Our Canadian uniforms were the cause of much conjecture in the streets, and we were truly thankful to find shelter in the night train which was to take us to our hospital, and with lights out—through a country as yet unmarred by war's alarms, in the pale spring moonlight—we whirled away to that mysterious "Somewhere in France." Perhaps the most satisfying moment of the whole trip was when, after a long walk through narrow, unlighted streets that wound and twisted, a light flashed within high, white gates in answer to our guide's loud knocking, and the word that met our eyes was "Canadians," and above it the flag of our far-away Homeland beside the tri-colored flag of France. It surely was a welcome equal to several brass bands and a cheering crowd! and to find Canadian girls within, Canadian girls on night duty, who welcomed us with outstretched hands, whether they knew us or not, and told us how good it was to see some one from "Blighty" was the best part of it all.

When I tell you that our patients are all French, and that none of them speak English, you will appreciate the feelings of the girls who welcomed us in ——.

"My 'Eart Fails Me"

A portly countrywoman came along the platform at a certain railway station and sat down on a seat beside a hospital nurse who was waiting for her train. With a heavy sigh of relief the countrywoman disposed of her parcels and umbrella. Then she started chatting.

"Ah!" she said, admiringly, eyeing the nurse's uniform. "I don't know what we'd do wi'out the likes of you."

"Oh, now, you're too kind," protested the nurse, with a smile. "I'm quite sure you do things as worthy every day."

"Not me, miss," replied the old lady, mournfully. "I can kill a duck or fowl wi' the best—that I'll admit. But when it comes to 'uman beings, my 'eart fails me!"

The Care and Treatment of Mental Defectives

By Helen MacMurchy, M.D.

Toronto

How many mentally defective persons are there in Canada? The best way to answer this question, at present, is to ask another. How many insane persons are there in Canada?

In the Province of Ontario, for example, with a population of about two and a half millions, we have at present about seventy-five hundred inmates in our provincial hospitals for the insane; or about three per thousand of the population.

It has been found in Great Britain, in the United States, and wherever else this matter has been investigated, that the number of mentally defective persons in the community closely approximates the number of the insane; and in Canada so far, all the facts we have ascertained seem to make it probable that this may be said to hold good here. Moreover, the number of mentally defective children found in our elementary schools is also, apparently, comparable with the number found in the English elementary schools, about 2 per cent.

Why has little or nothing been done for the care of mental defectives?

Because "knowledge comes, but wisdom lingers."

About a hundred years ago, soon after 1801, Itard and Seguin, and others, drew attention to the necessity of caring for the lowest grade of mental defectives, those who were then spoken of as "idiots," but whom we now think and speak of as "persons having a mental age of about two years."

Before the nineteenth century ended, two new discoveries were made in regard to mental defectives:

1. It was gradually found out that there was a higher grade of mental defectives, those who were at first called "imbeciles," but whom we now think and speak of as mentally defective persons having a mental age of about three to seven years.

2. Then it became known, about 1880, that there were persons who were certainly mentally defective, but of a still higher grade, those whose mental age was from seven to twelve years, or even higher.

Now comes the point! Our practical action, our "wisdom" in dealing with mental defectives is about one hundred years behind our knowledge. We still are dealing with the problem of mental defectives as if we had only the low grade cases to deal with, though we all know that the care of low grade mental defectives is the smallest and easiest part

Read at the forty-eighth annual meeting of the Canadian Medical Association, June 15th, 1917.

of our problem. Consider for a moment the relative numbers alone of the three grades.

Tredgold, in his book on "Amentia," gives the percentage figures thus: Low grade, six; middle grade, eighteen; high grade, seventy-six. This is confirmed by all other authorities on the subject. "Knowledge comes, but wisdom lingers!"

How should mental defectives be cared for, and treated?

In principle—

A good deal like normal people. They need, first, a suitable environment.

Persons of subnormal mentality cannot fit into a world intended for normal people. We must make an environment for them; that is, an institution.

Perpetual children must have perpetual care.

They need, second—

To develop their gifts and capabilities.

All mental defectives have gifts and capabilities (of course, there are exceptions to all general rules), and the use of these powers and gifts has secured the success of the work at the many farm colonies, on the cottage plan, in the British Empire, the United States and other countries, where thousands of mental defectives are now cared for.

Why should we do anything about mental defectives?

1. Because this is a form of national service.

2. We are the ones who know most about this question.

If we do not do anything to help about mental defectives, who will?

We owe it to the country that gave us our medical education, to help Canada in national medical problems, and this is one.

3. Because mental defectives drag down the standard of public health.

If they were properly cared for, public health would be greatly improved. Consider the rôle of the mental defective in transmitting tuberculosis, syphilis, and other transmissible diseases.

4. Because if mental defectives were properly cared for, it would—

Reduce the number of illegitimate births.

Reduce, by 50 per cent., the number of women arrested for prostitution.

Reduce, by from 10 to 20 per cent., the number of criminals.

Reduce, by 80 per cent., the number of unemployables.

Reduce, by 30 to 50 per cent., or more, the number of inmates in charitable institutions.

5. Because if mental defectives were properly cared for, they would leave no children behind them to carry on this problem in a worse form to the next generation. As the *British Medical Journal* said, in discuss-

ing this question: "Our duty to our neighbor must now be held to include our duty to posterity."

The right to life and happiness is one thing; but the right to parenthood is another.

What shall we do about mental defectives?

1. Give proper instruction on this subject to all medical students.

2. Help to educate the general public, especially judges, lawyers, clergymen, teachers and other leaders of public opinion about this question.

3. Promote and improve medical inspection of schools by every means in our power, so that mental defectives may be recognized.

4. Support and encourage the movement for special or auxiliary classes for all children needing special training or education, so that they may be taught what they *can learn*, and not what they *cannot* learn. Four Provinces have these classes now.

5. Aid and assist in the formation of voluntary associations for the care of the mentally defective. Nova Scotia and Ontario have already formed such associations.

6. Direct and encourage the movement to establish (on a small scale at first, but with ample land provided for) farm colonies on the cottage plan.

7. Assist in securing the necessary legislation, by Royal Commission, or other means.

8. Assist in securing the proper medical examination of all immigrants.

9. Give every assistance in our power to the movement in favor of a Dominion Minister of Public Health.—*The Canadian Medical Association Journal.*

Christmas in A Military Hospital

By an Army Sister

"We say a 'Merry Christmas,' and wish a Happy New Year,
But each in his heart is thinking of those who are not here."

—*Longfellow.*

To waken up on December 25th and find the ground without its usual white mantle covering and to see the turkey without the cranberry sauce does not seem very much like Christmas to those who have been accustomed to all the trimmings. The walls and ceilings throughout the vast wards were covered with flags and bunting and hung with variegated chains, flowers and other decorations in colored paper, with loyal and patriotic mottoes. The proceedings rightly commenced on Christmas

Eve, when a choir of small boys from a neighboring Anglican Church came up and sung the favorite carols, the melodious voices of whom touched the hearts of those who were so thankful to be under shelter and not up on the firing line in the midst of so many discomforts. No temperatures were taken, and all quinine (the favorite dose for malaria) was discontinued for the day; everyone forgot that he was ill, and I can not tell you where the pains went to, but, to see all the smiling faces of the wonderful "Tommies," one would think they were made of something different from the ordinary human being. It is indeed a grand lesson for us all, especially those with a discontented mind, and how true the old saying is "that the courage that bears and the courage that dares are really one and the same."

The first part of the programme for the day consisted of a useful gift in the form of a lovely woolen shirt, pyjamas, knitted scarf or socks, provided by the kind ladies of the British Red Cross Society, and it was a great joy to participate in handing round the "surprise packages." The "padre" in the official disguise of Santa Claus, wandered along about 10.30 and distributed gifts from the staff. About 12.30 the patients assembled for their Christmas dinner, which, of course, was the great event of the day. I forgot to mention that they had eggs and bacon for breakfast. Long tables were placed together on one side of the huge ward, and as many as were able to sit up were seated at the tables and the less fortunate ones were placed as near each other as possible, and we managed to see that all had an ample supply of turkey and sausage and a double portion of plum pudding. In the afternoon, the tea—at least the cakes—were provided by the generous Red Cross ladies, and again we found a way to their hearts, for our one object was to make them as happy as possible. I might mention here a little incident which was very touching. Just before tea was served, a number of sailors who were lying in harbor, and miles away from those who were near and dear to them, paid the patients a visit and brought generous supplies of oranges and nuts to help cheer the hearts of those who were not able to enjoy the blessing of the use of all their limbs and the delightful sunshine and sea breeze.

After tea a concert was provided by amateurs, who also made it their business to brighten the hearts and to help shorten the long, dreary hours of those who are continually on their backs.

They all voted it a Merry Christmas indeed—much better than they had spent last year, when some had the misfortune to be in the trenches with only bully beef and biscuits as their diet.

What we can do is a small thing; but we can and will aspire to great things, thus: if a man cannot be great, he can yet be good in will; and what he, with his whole heart and mind, love and desire, wills to be, that, without doubt, he most truly is.

Why Are We Nurses?

By Sibella A. Barrington

In these days when the Military rightly calls for and takes the very best of our nurses to work either overseas or at home, caring for those who have been willing to give their lives for their country, may I say a few words to the Private Nurse who is also trying to do her duty at home and who, owing to changed conditions, finds it hard, perhaps, to live as she did before the war.

At our last meeting it was decided not to raise our prices at present, for, by doing so, we were going to make life harder for those who had given their men folk for duty overseas, and we Nova Scotia nurses as a body decided it was no time to do that. But, can we not try and find happiness in giving up the little extra that the extra money might buy, and can we not try this winter to make our Association such that it will be enough for a doctor to be told a nurse belongs to the Graduate Nurses' Association of Nova Scotia, to know she will be all right and act the part not only of nurse but also as help and comfort in the home she enters, for by so doing we would be sure of steady work, which would mean more than higher pay, and we would also gain a place in the hearts of the public of Nova Scotia which would last when the war was over.

The term "nurse," from the earliest days, meant to nourish or care for, and has always been associated with self-denial and love for humanity at large and the individual patients who may come under our charge.

After the meeting comes the thinking, and I have begun to wonder are we losing our high ideals and letting money take their place, or rather the love of money, for that is what it amounts to. After all, character is what we take with us into the great beyond, and it does not really matter, does it, whether we have had a life of pleasure down here or a life of service given willingly.

In thinking over the causes of the great war, was not the love of money and conquest at the very root of the whole conflict which has plunged the whole world into sorrow and bloodshed? Are we growing into a lot of women who are going to work only for the mighty dollar and make our nursing a business transaction? So much labor grudgingly given for money received? For if that be the case, we are fast losing the spirit of nursing as taught by Florence Nightingale.

Can we not, before the year closes, think it over and decide that life is a big thing given us to live and grow in, so that when the end comes we may pass on to higher fields of labor, having left the world a better place after our sojourn in it? We have been losing ground with the public, and the question is: "Why?" The only answer I can think of to the question is: "Love of 'Money' and 'Self' seem fast to be coming first." Can we not band together and let the spirit of loving

service come first and of helpfulness to each other and all we come in contact with? Knowing from our hearth teaching that the God who knows when a sparrow falls will care for us and at the last say, "Well done," which is, after all, the only thing which counts when death claims us. Happiness is what we all are seeking, after all, and is not found, like Materlink's Blue Bird, in the cage at home, not in the paths of feverish excitement, but in the consciousness that our duty has been well done without thinking of reward, even though it may be hard work in quiet places with no honor or glory awaiting us, only the knowledge that God knows we are doing our best.

Lines from A Nurse to Her Stretcher Bed

Others may sleep on a bed,
But not Nursie—No; instead
She must place her weary head
On a stretcher.
Do you think does Nursie care?
No; she says that anywhere
Is good enough—so lay'r
On a stretcher.
So they put her on a stretcher,
So it won't take long to fetcher,
And she's called all right, you betcher,
From her stretcher.
What is that she hears a-rattling,
As with sleep she is a-battling,
In her dreams with angels prattling,
On her stretcher?
'Tis the feeder 'gainst the chair,
Means the patient doth declare
Nursie must skip out of there
Off that stretcher.
Alas! how oft I'm torn
From my dreams ere it is morn—
Could I ever, ever scorn
A stretcher?
No; my stretcher, faithful, true,
Tho' forsake you oft I do,
Would that I might stay with you,
Oh, my stretcher!
What's my choice in all creation?
Why, my maddest dissipation
Is an all-night's stertoration
On my stretcher.

—A T. G. H. Nurse.

Editorial

This is the fourth Christmas since the war began, and to all of us it brings memories of years that have been, and the best part has been the getting together and packing the boxes for the men and nurses overseas. What it must mean to them, as they wait to hear from all their old friends, and find that their individual tastes have been remembered by their home people! The nurses' organizations have been busy preparing for them. Manitoba, as last year, has given her members the *Canadian Nurse* for the year, others have sent remembrances of various kinds. At this time it might not be out of season to speak of that first section of the nursing force that went overseas in the early days of the war. These have banded themselves together under the name of the "Mayflower," or the Franconia Contingent, named after the boat they crossed in. In the original force there were two matrons and 101 nursing sisters. Of these ten are now matrons, five assistant matrons, and the Matron-in-Chief, Miss Macdonald, still holds her post with increased popularity and a reputation for constant and hard work. The rewards for conspicuous services include one Victoria medal, 39 Royal Red Cross, two Medaille Epidemies and a whole host of "mentioned in despatches." At a recent anniversary dinner given in London, of the original 108 members there were present forty, gathered from all over England. Several sisters related thrilling experiences while on duty; two of them who had been in the Canadian Hospital in Russia greatly interested the gathering by relating some of their experiences during the revolution. "There have been twelve marriages amongst the 'Mayflowers,' with two in prospect before Christmas," added the Matron-in-Chief. Of the twelve married, the majority have husbands serving on the forces and are themselves still serving in some capacity. Four resignations have been accepted, and of the six sisters rendered permanently unfit for service at the front three are on duty in Canada, and one is on her way to England to work there. One has paid the supreme sacrifice at the call of duty. Twelve are on transport duty and sick leave; 49 on duty in England and 18 in France. Many sisters have come across to add to the numbers of the C.A.M.C. sisters, but for the original contingent there must be always a special feeling. They are allowed to wear the figure "1" on their shoulder, just as the male officers of the First Contingent, and, needless to say, it is a mark of distinction greatly envied by sisters of following units.

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Just as this number goes to press the news of the frightful disaster at Halifax reaches us. The horror of it, when one thinks of the hundreds of people killed and wounded, and the suffering from the cold, as well

as from wounds, is appalling. To all of us the call goes up for help in every shape and surely the nurses will be among the first to give of their service, money and supplies. So many of the Canadian nurses have such delightful memories of the week spent there just before the war broke out in 1914 and will never forget the whole-hearted hospitality of the Halifax people to the visiting nurses. One cannot grasp the full horror of this catastrophe, but we do send to all our fellow nurses in that stricken city our heartfelt sympathy.

WHAT COUNTS

It isn't what you mean to do a week ahead,
It isn't what you know you'll gain
When all annoyances have fled;
It isn't what you dreamed and planned—
Such hopes are but a phantom band—
The day's work counts.

The day's work counts—
It isn't much.
The gain of those few painful hours:
But be content if there is shown
Some product of those sacred powers
Which guide each mind, uphold each hand,
Strive with the best at your command—
The day's work counts.

CHIVALRY

A wounded soldier in a crowded omnibus rose to give up his seat to a lady.

"No, thank you," she replied, "I should not take your seat if you have been wounded."

"Madame," he answered, "I have been wounded three times, and would be wounded a fourth if you didn't take it."

Many a heart is hungry, starving
For a little word of love;
Speak it, then, and, as the sunshine
Gilds the lofty peaks above,
So the joy of those who hear it
Sends its radiance down life's way,
And the world is brighter, better,
For the loving words we say.

Chief Superintendent's Annual Report, 1916

(Continued from last month)

The great trouble with nurses, and with doctors, as well, is uneven distribution. Once have them understand the many disadvantages of the country districts and they will flock there. Our Canadian West is going ahead; it is solving all kinds of problems for itself in wonderfully effective ways that are apt to be overlooked by those who are not in close touch with them.

In the desire to solve the country problem quickly, there is a great danger of compromising with standards, and various plans are suggested from time to time by people who do not know the Canadian West, and they one and all fail because they do not grasp the idea of the vast distances and of the sparsely settled character of the country. Twenty-five years hence, if Canada develops quickly, fifty, if slowly, some such scheme as the Country Nursing Scheme of the Queen's Nurses of Great Britain may work out satisfactorily. With the present state of settlement, however, and with the large holdings, it would be, in the opinion of the writer, quite ineffective. To be sure, the installation of the rural telephones, and the more general use of automobiles on the prairies, are cutting down distances very rapidly.

The Order's Country Scheme calls for the training of the girls and women in the various communities in home nursing, so as to make them more useful generally, and, especially so, as helpers to the nurses, thus leaving the trained worker available for serious and acute cases.

The other development which marks this third cycle is the improved post-graduate training. When things were simple, the post-graduate course was simple, but when it became more complicated, it was necessary to increase the training and experience of the nurses so as to send them out equipped with a knowledge of district nursing first, but also of school nursing, child welfare and pre-natal work, tuberculosis

work, relief and settlement work. A course consisting of practical observation and lecture courses was outlined by the Executive Council, and two of our four training centres are carrying out the directions. There is much, very much, yet to be desired in this connection, and I wish again to state that my recommendation is that a training centre be established directly under the Executive Council, whose primary objects would be the education of the nurse in visiting and public health nursing. Another training centre is needed, and the logical location for it is in the Middle West. In the light of that, I should like to make a few more suggestions, added to the two already made. One is, that more publicity be given to the work and prinicples of the Order. Many people still look on the Order as a private organization, with certain aristocratic tendencies instead of as the broadest organization in Canada, an organization of the people for the good of the people. That may be done in a number of ways. First, by closer coöperation with the Local and Provincial Boards of Health, with City and Municipal Councils, School Boards, etc.; second, by increased missionary effort on the part of Local Committees in spreading reliable information concerning the Order into the adjoining communities, as is being done by the Whitby Committee, by Montreal and by a number of our country district committees. Third, by a Victorian Order magazine. Another suggestion is that the Order should be the means of spreading health news

Dr. Snell, of St. Anne de Bellevue, made the following suggestion in his President's address this year:

"It has been my privilege as President of the Local Association this year to attend the annual meeting of the Order at Ottawa. The annual business meeting is necessarily a very formal affair, but I cannot refrain from reiterating the suggestion made by Mrs. Harrison in her report of the work in this district in 1913 that the Board of Governors take under consideration the possibility of providing on that account something additional in the way of instruction and inspiration, such as would better justify the expenses incurred by local associations in sending delegates to the meeting. In my humble opinion a valuable opportunity for education is being overlooked."

(Continued in next month's issue)

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The Victorian Order of Nurses for Canada offers a post-graduate course in district nursing and social service work. The course takes four months, and may be taken at one of the training homes of the Order: Toronto, Ottawa, Montreal, Vancouver. For full information apply to the Chief Superintendent, 578 Somerset Street, Ottawa, or to one of the District Superintendents, at 281 Sherbourne Street, Toronto, Ont.; 46 Bishop Street, Montreal, Que.; or 1300 Venables Street, Vancouver, British Columbia.

The Canadian Nurses' Association and Register for Graduate Nurses, Montreal

President—Miss Phillips, 750 St. Urbain Street.
First Vice-President—Miss Colley, 261 Melville Avenue, Westmount.
Second Vice-President—Miss Dunlop, 209 Stanley Street.
Secretary-Treasurer—Miss DesBrisay, 638a Dorchester St. West.
Registrar—Mrs. Burch, 175 Mansfield Street.
Reading Room—The Club Room, 638a Dorchester Street West.

At the monthly meeting of the Canadian Nurses' Association, in Montreal, it was decided to invest as much as possible of their funds in Victory Bonds. It was thought best to leave the amount to be used to the discretion of the Executive, and there was a special meeting called for that purpose.

At the same meeting Mrs. Houston gave a most interesting account of her exeriences in Mexico and the difficulties she had had with her party in their efforts to leave during the recent uprising.

At the last meeting of the Edith Cavell Chapter of the I.O.D.E., Miss Hersey, who is Regent, announced that Miss Scott Cavell, sister of Miss Edith Cavell, had written expressing her appreciation of the invitation to become the Honorary Regent and would be pleased to accept the honor.

EQUAL VALUES

An army of young recruits had been manœuvring all the afternoon, and there had been many brilliant instances of attack and defence in the mimic warfare. At length a white flag was hoisted. The officer in command of the attackers started in amazement. "A flag of truce!" he exclaimed. "What do they want?" A sergeant-major endeavored to cover up a smile. "They say, sir," he reported, "that, as it's tea-time, they'd like to exchange a couple o' privates for a can of condensed milk—if you can afford it!"

News from The Medical World

By Elizabeth Robinson Scovil

A British Ministry of Health

The Council of the British Medical Association has proposed to the Government that a Ministry of Health should be enacted to take over from other bodies all duties that are concerned with the health of the community. The Board should be presided over by a minister of cabinet rank. Each locality should have an administrative centre, to be formed of representatives of the rating authorities, the educational authorities, the persons contributing to a scheme of health insurance, the medical profession, public hospitals, dentists, pharmacists and nurses. For each area hospitals, clinics, or treatment centres should be recognized, or established, at which persons entitled to treatment under the public scheme should be able to obtain institutional, consultative or specialist service on the recommendation of their medical attendant.

The Eye in the Diagnosis of Death

It is stated that the pupil is the last part of the body to respond to stimulation in death. Many tests have been devised to assure the physician that life is extinct. A recent author uses dionin (ethyl morphin hydrochlorate). Dropped in the eye, while it induces an intense reaction, it is harmless if the patient is still alive. Applied to the eye of a body still warm two hours after death, failure to cause reaction should be a legal proof of death.

Feeding Patients in Bed

A new feeding system has been inaugurated in one of the hospitals in Paris. Carts, which carry a pan of coals under sliding drawers containing food, are wheeled from ward to ward and the food deposited. It is kept piping hot and much time is saved. Two auxiliaries, it is stated, have served seventeen wards in seventeen minutes.

Auto-intoxication

In a paper on another subject a medical writer combats the usual theory of auto-intoxication. Fecal matter contains decomposed material and innumerable bacteria. The idea that poisonous substances reach the organism from this source is at first sight plausible. But normally the digestive tract, including the colon, does not take up poisonous substances. The colon is so constructed that fecal matter can be discharged without much difficulty. Much harm has been done by making people afraid of themselves; afraid to eat, afraid of their digestive tracts. The colon is our best friend. Instead of being a place of poisoning, it is a

place in which things can be kept without harm, and later on eliminated. The patient should eat plenty of bread, vegetables and fruit and salads, the more indigestible food the better; drink plenty of water and stop worrying, and the bowels will move all right usually. If not, 15 grains twice a day of cascara sagrada or tincture of rhubarb, or a saline enema, or 5 to 7 ounces of olive oil injected at night and left in the bowel until morning, at first every night, then every other night, will probably effect a cure. Fear and constant anxiety about having a movement prevent its being accomplished.

Efficacy of Vaccination

The 800,000 vaccinations performed at the beginning of the war and during the year 1915 on the resident population of Paris have resulted in the disappearance of smallpox in that city. A prolonged war without smallpox is a remarkable fact and proves the efficacy of the prophylactic measures that have been taken. The honor of this result belongs to the city of Paris and its vaccine service.

Bacteriology of the House Fly

The case against the house fly has been abundantly proved, and evidence continues to pour in. Bacteria which might be of importance in the spread of infectious disease have been isolated from the bodies and intestinal tracts of flies. These include the colon bacillus, showing that the insect has recently come in contact with fecal excretions. Finding the pyogenic cocci on flies suggests the possibility that this insect may transmit suppurative organisms from wound to wound, and may explain the spread of gangrene in field hospitals.

An Ancient Hospital

A hospital at Middleburg, in Holland, has existed since at least as early as 1308. A bequest was made to it in that year. It is called S. Barbara's Hospital. The earliest picture of it dates from 1696. A campaign for the destruction of the antiquated building was begun in 1857, but it was not until a smallpox epidemic spread from it in 1866 that it was demolished. Its records are preserved and the *Leggerbocks*, dating from 1604 and 1687, with the rules and regulations for the administration of the hospital.

Oiled Gauze

A writer in a medical journal recommends gauze dipped in liquid petroleum, the excess being squeezed out, as far superior to plain gauze as an absorbent. A loose-mesh cheesecloth should be used. Cotton sponges can be wrapped in the gauze; those made of compressed cotton absorb better than those of loose cotton. Cotton sponges absorb much better than those filled with powdered charcoal. The favorable influence of the oiled gauze is explained by the protection that the oil furnishes against swelling of the thread and obstruction of the mesh.

Medicinal Uses of Yeast

Bakers' yeast has been found a useful remedy in the treatment of furunculosis, acne, constipation, and other cutaneous and gastro-intestinal conditions. It seems to be peculiarly efficacious in the cure of boils. From a half to a whole fresh yeast-cake is given three times a day. Fleischmann's compressed yeast was used in the tests. It had a decidedly laxative effect, so much so that in some cases the dose had to be reduced.

Scurvy

Several cases of scurvy have been reported in Great Britain, about fifty in London alone since February last. It has been suggested that the shortage of potatoes has much to do with the occurrence of the disease, this being the only fresh vegetable freely used by the poorer classes.

Care of Blind Soldiers

An institution for the education and training of blind soldiers is to be established at Halifax, N.S. The organization work will be under the supervision of Sir Frederick Fraser, who has been so successful in building up the Halifax School for the Blind.

Soap in Treatment of Wounds

The *Medical Press and Circular* says very satisfactory results have been obtained from the use of soap in dressing wounds. Marseilles soap of good quality was used in bathing and irrigation and applied by means of saturated compresses. The soap is sterilized, after grating it to powder, by exposure to heat, 120 C., in an oven for five minutes. In an emergency the surface of a piece of soap is rendered aseptic by plunging it into boiling water. The compresses should be boiled, too.

The world is all too sad for tears;
I would not weep—not I,
But smile along my life's short road
Until I, smiling, die.

The little flowers breathe sweetness out
Through all the dewy night;
Should I more churlish be than they,
And plain for constant light ?

Being Kind to Her

A Colonel's wife, who is doing real nursing at a certain London hospital, was recently offered a tip of sixpence by an honest old couple in gratitude for her care of their soldier-son. Tact personified, she slipped the sixpence back into the father's hand, saying, smilingly, that nurses weren't allowed to accept gratuities.

"Oh, that'll be all right, Sister. I'll not say nothing about it. Just take it, and get yerself a drop o' gin in your off-time!"

Public Health Nursing Department

Conducted by the Committee on Public Health Nursing of the C. N. A.
Under the Convener on Public Health Nursing

NOTES ON PUBLIC HEALTH NURSING IN BRITISH COLUMBIA

With the exception of the Medical Inspection of Schools which is required by law in all the public schools of British Columbia, the cities of Victoria, Vancouver, Vancouver South and New Westminster having had staffs of school nurses for some years, Public Health Nursing is rather in its infancy in this province.

The Victorian Order of Nurses in Vancouver have recently begun "Mothers' Clinics," with Miss Pedden as Child Welfare nurse. At these clinics the mothers meet and are given talks and instructions in the care of the baby.

The Health Department of the City of Vancouver employs two nurses: Miss Gertrude MacKay, engaged in the tuberculosis work, and Miss Janet Campbell, Public Health visitor. The duties of the latter are quite varied. They are: To visit and inspect the sanitary condition of all stores, factories and public buildings where female help is employed; also to see that the employees are free from any visible skin eruption; to inquire into conditions of labor, as to hours and character of work; to inspect sanitary conveniences for women at the various parks and bathing beaches; to act as Infant Protection visitor. This consists in seeing that places where children under seven are kept for pay are registered, and that the women in charge of such homes are competent to take charge of infants, and that the houses are clean and sanitary; to attend to the Infant Welfare work, and to be present at all children's clinics.

A clinic has been started for well babies in connection with the Infants' Hospital, but the attendance so far has not called for separate days for well and sick children. Cases are followed up and mothers helped with treatment and feeding, being instructed how to modify milk, etc.

The death rate of children under one year in Vancouver compares very favorably with that of other places, being usually about 55 per thousand of the birth-rate. Last year this was increased to 61.08 per thousand, due, probably, to an epidemic of measles.

HEALTH SURVEY OF THE PROVINCE OF NEW BRUNSWICK

Hon. W. J. Roberts, Minister of Public Health, has engaged Mr. John Hall, a graduate of Massachusetts Institute of Technology, in Sanitary Engineering and Public Health, to make a survey of health and sanitary conditions throughout the Province of New Brunswick, as a preliminary step towards the establishment of a "Health Department" as a branch of the work of the Provincial Govenrment.

Some of the matters to which Mr. Hall will pay special attention include:

1. The activities of the Local and Provincial Boards of Health.
2. The public control and protection of food.
3. Milk.
4. Slaughter houses.
5. Cleanliness of stores.
6. The existence of communicable diseases and methods of dealing with them.
7. Medical and Sanitary conditions in the schools.
8. Public water supplies and sewage disposal.

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The Manitoba Association of Graduate Nurses held their monthly meeting on October 30th. The programme was devoted to Public Health work. Miss L. Spratt gave an able paper on Child Welfare work as it is carried on in Winnipeg, outlining the work from the beginning to the present day. A report of the Convention on Charities and Corrections held in Ottawa in September was read by Miss Elizabeth Carruthers. During the social hour Miss Laidlaw, of the Winnipeg General Hospital, who is leaving shortly to be married, was presented with a handsome Royal Doulton tea service.

Hospitals and Nurses

NEWFOUNDLAND

The annual meeting of the Newfoundland Nurses' Association was held on Thursday, November 1st. Several of our members have gone during the year to serve overseas, and new ones have been added to our number. The appeal which was sent to Lady Davidson, President of the Women's Patriotic Association, for a contribution towards the Edith Cavell Homes of Rest for Nurses, was launched, at her request, by the Nurses' Association, and met with a generous response. We were able to send the sum of $2,700 to the treasurer of that fund in England. The officers for the year were elected as follows: President, Miss Southcott,

Vimiera, King's Bridge Road; Vice-President, Miss Taylor, Night Superintendent General Hospital; Secretary-Treasurer, Mrs. Hiscock, 964 Gower Street. The business was followed by a social "cup of tea."

Red Cross workers, sewers and knitters, have started their winter campaign. Owing to the much-regretted departure of the Governor, Lady Davidson, the work-rooms at Government House have been closed and the work is now carried on at Mrs. Pitt's house, Sutherland, kindly loaned by her for the purpose.

Miss Reid, who was in charge of the Military Hospital, Military Road, has been appointed Matron of the Fever Hospital.

Letters are received from time to time from our nurses across the sea. Three of them are now working in Saloniki and are very happy in their work.

The Convalescent Home for returned soldiers and sailors on Waterford Bridge Road is filled. Through the generosity of Sir Edgar Bowring it has been very much improved. There is now an annex containing two dormitories, bath-room, lavatory and a large recreation room, which is very much appreciated by the men. It has a very comfortable, homelike look, with its small tables, writing desks, easy chairs and couches. Miss Edgar is in charge, with a staff of V.A.D. nurses. The gift of a motor car from Mr. Barr, with the gasoline to run it, adds much to the pleasure of the men, who go for rides every day in their turn. One of their first V. A. D. nurses, Miss Crosby, is now at St. Dunstan's Hospital for the Blind, in England, working there while waiting a call to go to France as an ambulance driver, having passed most successfully all the necessary examinations and tests.

Unfortunately a whole shipment of dressings and supplies for the soldiers went down when the "Durango" was torpedoed.

The picking over and cleaning of sphagnum moss for dressings keeps the members of the Patriotic Association responsible for that work busy four days a week. We have sent large quantities of it from Newfoundland.

The illness and death of Miss Duncan, Matron of the Fever Hospital, came as a shock to her many friends in St. Johns. Coming here from South Africa, where she had served in the Boer War, she was appointed Matron of the Fever Hospital, which had just then been completed, and held the position until her death, working almost to the end. Kind, thoughtful and generous, an energetic worker and a good nurse. she made many friends during her stay in St. Johns, to whom her death is a personal loss.

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NOVA SCOTIA

Mrs. Doyle, of the Station Hospital, has arrived in Halifax after a visit to friends in Toronto.

The monthly meeting of the N.S.G.N.A. was one of the most interesting held for some time. Captain Barrett delivered a fine address.

After full discussion of fees, it was unanimously resolved, as a patriotic course and owing to the increasing stress of the times, not to increase the fees, but to hold to the present rate of $18.00 a week for general nursing and $21.00 for contagious work.

Nursing Sisters McCarthy, Effie Guild, Mary Shanahan and Elizabeth McLeish, all members of the nursing staff of the Station Hospital, have received orders to go Overseas.

Official news has been received that Matron Pope has been appointed Matron of the Duchess of Connaught Hospital, Taplow, England, and is very happy in her work, hoping, however, to be sent to France at Christmas. She gives a very interesting description of modern surgery, especially in connection with facial operation.

Miss Anderson, of the V.O.N. staff, has been appointed to the staff of the Station Hospital. Miss Bayne has also been appointed to the same hospital.

Nursing Sister Howard returned from Kentville on sick leave recently.

Nursing Sister McNeil recently gave a most interesting address to the Red Cross Society of Lunenburg on her experiences in the Far East. She returns to France shortly.

The Order of the Royal Red Cross of the Second Class has been conferred on Nursing Sister Helen McKay, of New Glasgow, who on returning from the front was assigned to duty at the Station Hospital. She will probably receive the decoration at New Year's.

Nursing Sister Clarke, of New Glasgow, recently returned on the Hospital Ship "Letitia," which was wrecked near Halifax. She left with the First Canadian Division and has seen much varied service in France, Lemnos, Cairo, Saloniki and in England, and was sent home on sick leave. In speaking of the Red Cross work, Miss Clarke says, "It is wonderful; cannot be over-estimated. Smokes and socks should be sent in abundance."

Mrs. Corston, Halifax, has been spending a few weeks at her home in Lindsay, Ont.

The annual meeting of the Trustees and Executive of the Nurses' Sick Benefit Fund was held on the 8th of November, when it was decided to invest $300.00 in the Victory Loan.

We are sorry to hear that Nursing Sister Nora Larkin, of the Station Hospital, has had to undergo an operation for appendicitis.

In honor of the graduation last week at the Victoria General Hospital, Halifax, of Miss Ethel Taylor, Miss Mary Cameron and Miss Gertrude Crosby, they were, with the Senior Class, entertained by the Superintendent, Miss Pickles, at a theatre party and supper.

Miss Cameron and Miss Crosby remain at the Hospital in charge of wards. Miss Taylor is to take up private nursing work in the city.

QUEBEC

Montreal Women's Hospital Alumnae Association

Miss C. Hart (Class '12, M. W. H.), who for some time past has been in charge of the Montreal Dispensary, was present at the Alumnæ and gave an interesting report of her work.

On November 1st an afternoon reception was held by the W. H. Alumnæ in honor of Nursing Sister G. O. Donkin (Class '13, M.W.H.), who was home on furlough.

Recent graduates will be pleased to learn that Miss Hazel MacVicar (Class '16, M.W.H.), who has been in the Hospital for treatment for threatened appendicitis, has returned home.

Recent reports from Miss H. S. Slade (Class '17, M.W.H.) state her condition slightly improved.

The bazaar held by the Women's Hospital in Stevenson Hall on November 8th was well attended. The majority of booths were well sold out by evening, totalling a net proceeds of $500. The Board of Management issues a hearty vote of thanks to all co-workers.

The Alumnæ has packed Christmas boxes for the five nursing Sisters Overseas who are so loyally "doing their bit" at the front.

Dr. Grace Ritchie, England, was present at the last monthly meeting and gave an address on the Victory War Loan. It was decided by the Association to take out a five-year one-hundred-dollar bond. A number of the nurses decided to take out loans individually.

Royal Victoria Hospital Alumnae Notes

The first meeting of the 1917 season of the R.V.H. Alumnæ was held in the new class-room of the Nurses' Home Extension, about forty members being present, with Miss N. Goodhue in the chair. The chief topic for discussion was that of the proposed Endowment Fund, details of which will be reported later.

Miss Owen (Class of 1896) writes very interestingly of her work in Zamboauga, Philippine Islands, where she is in the Hospital in connection with the Mission there. She says the town is beautiful, thanks to the American Governor of the Province, and the roads very good. The Mission buildings are out of the town, in a large cocoanut grove by the sea, and the grounds are very pretty. Nurses from the training school in Manila come to them for a year, and Miss Owen carries on the classes. It is very pleasant to hear from our members at such a distance, and feel that they still belong to us.

Mr. and Mrs. James Almond, Shigawake, P.Q., announce the engagement of their daughter Margaret Jean (Class of 1909) to Mr. Albert Bruce Finnie, son of Dr. and Mrs. Finnie, of Montreal.

Miss Nina West has returned to Montreal after a summer of volunteer work at Harrington Hospital, Grenfell Mission, Labrador.

Miss Agnes Alpaugh, who has been on the operating staff of R.V.H. since finishing her training, has taken up special nursing.

Miss Aline Pomeroy and Miss Dorothy Sanderson, who went overseas in June, are at Kitchener's Military Hospital, Brighton, Sussex.

Miss Elsie Roper (1914), who is in Los Angeles, Cal., has joined the American Red Cross and expects to go overseas with Base Hospital No. 35. Previous to joining Miss Roper successfully passed the Regent Examinations of the State of California.

An R.V.H. graduate, living in London, writes: "A frightful air raid last night, and as I write I hear the police whistles warning for another. I pull the blinds, draw the heavy curtains and just 'sit tight' while the big guns boom. Can you imagine London without a solitary soul on its streets? One hardly can, yet, when the 'take cover' warnings come, silence can be felt less than ten minutes after, and the tubes are packed, being the really safe place. I met Miss Lindsay in the street a short time ago; she, Miss Squires and Miss Cotton are at Hyde Park Hospital."

Miss Maud MacLeod has been appointed Lady Superintendent of the Vancouver General.

Calls have been received from the following Overseas nurses who have been so fortunate as to have been assigned Canadian transport duty: Misses Sedgwick, M. MacIntosh, C. Harrison, K. MacKay, C. P. Archibald and W. Bryce, all of whom are delighted to visit us, but are loath to remain on this side of the ocean while the war goes on.

Awards of the Royal Red Cross to Canadian nurses have been gazetted as follows: Associates Royal Red Cross of Second Class—Nursing Sister Hilda MacDonald (1915); Nursing Sister Margaret Park (1914); Miss Park is now Mrs.——

Miss Mary A. Prescott (1905) has been appointed Superintendent of the Ross Pavilion, to replace Miss May Henderson, who has been called to join her hospital unit (Mt. Sinai, N.Y.) for service overseas.

Miss A. Sims has been appointed Night Superintendent of the Ross Pavilion.

Miss Shirley Kent replaces Miss Sims in the public wards.

Miss Evelyn Way ('16) has gone to New York to do special nursing.

Miss Muriel Boulden ('16) has gone to her home in Windsor, N.S., for the winter.

Miss D. Montizambert ('16) is now in Montreal, doing special nursing work.

Miss Thomas (1917) has been made nurse-in-charge of the Case Room at Montreal Maternity Hospital.

Miss M. Clint, who has been at Petewawa Camp, is at present in Montreal, the guest of her aunt. Miss Clint expects to return overseas shortly.

Montreal General Hospital Alumnae Association

Miss Smardon, of Saranac, N.Y., is visiting in Montreal at present.

Miss Ethel Clark (class '11), of Toronto, has come to this city to do private nursing.

Nursing Sisters K. M. Knight and C. Erquhart have been transferred from No. 6 General Hospital (naval) in France, to No. 1 General Hospital in France.

Nursing Sisters Mrs. Giffen and Clare Gass, of No. 3 Canadian General (McGill), are now on duty at No. 2 Casualty Clearing Station in France.

Nursing Sister Birkett Clark, who resigned her duties in France owing to illness of her mother in Canada, is at present Matron of Military Hospital here (Grey Nunnery). Nursing Sister E. J. Dewar (Class '15) has recently gone to this hospital on duty.

Our Alumnæ Association bought nine hundred dollars' worth of Victory Bonds, five hundred of which was Sick Nurses' Benefit Funds, having invested five thousand of the latter fund previously in War Bonds. We are also providing for two prisoners of war in Germany until the war closes. The amount required to do this the first year was one hundred and twenty dollars, but, owing to high cost of living, the second year payment is one hundred and fifty dollars. We also work in connection with Red Cross Society and the Edith Cavell Chapter of the Daughters of the Empire.

Remembrances have been sent to our overseas nurses numbering eighty-eight, as many as we can learn of at present. We hope they enjoy the brightest and happiest Christmas possible under the great circumstances of war.

We extend our sincere sympathy to Misses M. McRae and A. Gillespie, who have each lost a brother at the front recently.

Nursing Sister E. F. Upton (class '09) is home from the front on sick leave, having contracted malaria while on duty. Miss Upton has been mentioned in General Milne's despatches. She was with No. 1 Canadian Stationary Hospital since early in 1915 in France, the Dardenelles, Lemnos Islands and Egypt, and for seventeen months in Saloniki. Her lectures given at different times since her return have proved most interesting.

The marriage of Miss Grace Lawrence (class '15), eldest daughter of Mr. Henry Lawrence, Port Daniel, P.Q., to Mr. George P. LeGrand, of New Carlisle, P.Q., was very quietly solemnized in the afternoon of November 22nd in the vestry of Knox Church, Montreal, by Rev. G. F. Kinnear. Both the bride and bridegroom were unattended. The bride wore a travelling suit of Burgundy-colored broadcloth, with corsage bouquet of roses and lilies of the valley and a black velvet hat and black furs. Immediately after the ceremony Mr. and Mrs. Le Grand left for New Carlisle, P.Q.

Mrs. Chas. Allan Spencer (nee Miss Ethel Patterson, class '15), who was married September 6th, 1917, received November 14th and 15th with Mrs. C. W. Spencer, Belmont Avenue, Montreal. Mrs. Frank Wooley and Mrs. C. K. P. Henry poured tea and coffee. Miss Beatrice Spencer presided in the tea room, and was assisted by Mrs. H. W.

Spencer, Mrs. S. S. Beamish, Miss Amy McKeown, Miss Margery Wooley and Miss Muriel Clark. Mrs. Spencer will receive on the first Tuesday of each month.

* * * *

ONTARIO

The Kingston General Hospital A. A., at their meeting November 6th, after much discussion decided to raise the nurses' fees after November 15th to $25.00 a week, or $3.75 per day.

On Tuesday, November 13th, the Kingston graduate nurses held a most successful tea and sale at the home of Mrs. Howard Marshall, when they realized $140, to be spent on linen for the Nurses' Home and for Red Cross work.

Matron F. McLeod, of Queen's Military Hospital, Kingston, left recently for the Coast on a hospital train.

Miss C. Milton is doing private work in New Liskeard, and Miss F. Hiscock in Montreal.

Miss Pearl Martin is spending a well earned holiday in St. Catherines.

We are very glad to report that Miss Annie Hiscock and Miss Annie Wright, two of our graduates who are at St. Agathe, are much improved.

Nursing Sister Gussie Wright has returned from England on sick leave.

It is with the deepest regret that we announce the sudden death of Mr. J. J. McEachern, B.S.C., of Timmons, Ont., husband of Alice McIntyre, K.G.H., '12.

The graduating exercises of the Sarnia General Hospital were held October 16th in the City Hall. After an excellent programme the report of the school was given by Miss Darville, Superintendent. The following nurses graduated: Misses Jemima Crooks, Jessie Scott, Ethel Sinclair Brigden, Edith Dale. Miss Scott was unable to be present, as she has been on Overseas duty since June. The diplomas were presented by Major Proctor, and Mrs. Kenny, President of the Hospital Ladies' Aid, presented the medals. A dance ended the evening, when the supper was served by the Ladies' Aid.

Captain Dulmage, formerly Superintendent of the General Hospital, Sarnia, has charge of a Military Hospital at Eastbourne, and has been mentioned in despatches for his work in France.

Nursing Sister Florence MacCrae, S.G.H. '16, has been on duty Overseas since May.

Miss Margaret Pollard, of Washington Sanitarium, Mt. Clemens, Mich., spent a few days in Sarnia on her way to her home in London.

Miss Lily Kiernan, from Flint, Mich., spent a few days in Sarnia recently.

Miss Fettes, who has been seriously ill in the S.G.H. for some weeks, is, we are pleased to say, making a good recovery.

Victoria Hospital, London, has given 53 nurses for military work, of which 40 are Overseas.

The Victoria Hospital A. A., London, held their monthly meeting November 6th, with 30 members present. Nursing Sister Bertha McIntosh gave a very interesting talk on her experiences of war work. She has seen service in France and in Malta, and has many interesting souvenirs.

A delightful informal dance was given at the Clubhouse, 295 Sherbourne Street, Toronto, by Miss K. Mathieson in honor of the 1917 Class of Riverdale Hospital. Those graduating were Misses Edna Axford, Pearl A. Pierce, Doris Home, Mary Clarke, Gertrude Gastrell and Caroline Field.

Nursing Sister Jean Bryce is home enjoying a rest after a year and a half of active service at Queen's Canadian Military Hospital, near Shorncliff, England.

On Friday, October 27th, 1917, the Toronto Hospital for Incurables training School for Nurses held their Graduating exercises. Sir John Hendrie presided and Dr. Alexander Davidson addressed the class. Mrs. Grant McDonald presented the diplomas to the following nurses: Misses Anna L. Goss, Myrtle Wanamaker, Jessie McLean, Anna Twohey, Eva LeQuyer. Mrs. Ambrose Kent presented Mr. Kent's gold medal for first place in final examinations to Miss Twohey. Miss LeLuyer received the silver medal for second place, presented by the Examining Board, and Mrs. R. B. Hamilton presented her own prize for neatness of room and person to Miss Twohey. After the exercises refreshments were served in the Board Room, and the graduates were given a theatre party in the evening.

Nursing Sister Bertha Smith (1911), of the Toronto Hospital for Incurables, who has been for the past year "Somewhere in France," is now recovering from a serious illness in England, and hopes to be able to return to France in the near future.

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MANITOBA

At the October meeting of the W.G.H.A.A. plans were made for sending a small remembrance at Christmas to the graduates overseas. Mrs. J. Stewart, 1st Vice-President, was in the chair, Mrs. Langille, President of the society, being absent in California for the winter. Mrs. Work, '17, has been appointed recording secretary, and Miss Montgomery treasurer.

Miss Annie McLaurin (W.G.H. '15) has taken the position of Headquarters Nurse at Nanaimo, B.C., General Hospital.

Miss May Fraser (W.G.H. '15) has accepted the position of Matron at the Sanitarium, Ft. Qu'Appelle, Sask.

Miss A. Moore (W.G.H. '09) and Miss P. Adair (W.G.H. '10), are on the staff of the City Milk Depot, Winnipeg.

Miss Winnifred Dawson (W.G.H. '14) is on the staff at Tuxedo Military Hospital, in charge of the operating room. Misses Mathieson, Ritchie and E. N. Melvin, all of the W.G.H., are also on the Tuxedo Hospital staff.

BRITISH COLUMBIA

Miss Amelia Campbell (R.V.H.), who has been spending the last eighteen months in Vancouver, B.C., has gone to California for the month of December with her borther, Dr. Glen Campbell.

The Graduate Nurses' Association of British Columbia have again remembered the nurses of British Columbia who have gone Overseas by sending them each a Christmas card and handkerchief.

A very successful sale of work was held by the Vancouver Graduate Nurses' Association on December 8th in aid of their "Sock Fund.". A feature of the sale was a display of Christmas gift boxes, covered by the nurses themselves, which were very popular. Altogether the fund will benefit by about one hundred dollars.

A message of sympathy from the Graduate Nurses' Association of British Columbia has been sent to the Halifax Nurses' Association for the terrible catastrophe that has befallen their town, and a sum of money has been wired for immediate necessities among the sufferers.

The Vancouver Graduate Nurses' Association are sending, through the Red Cross, a box of surgical supplies and clothing to be used for the relief of the sufferers in Halifax.

The Social Service Council at Nanaimo are now considering the advisability of securing a visiting nurse for that city. A committee has been appointed to present the matter to the Nanaimo citizens.

Births

LLOYD—At Kingston General Hospital, October 19th, 1917, to Lieut. Wilson Lloyd, A.M.C., and Mrs. Lloyd, a son. Mrs. Lloyd was Miss Pearl Morton, K.G.H., '96.

CARLETON—At the Private Pavilion, Toronto General Hospital, November 6th, 1917, to Dr. and Mrs. G. Wylie Carleton, a daughter. Mrs. Carleton was Elizabeth Cooper, T. G. H., class 1915.

GILMOUR—On September 21st, 1917, to Mr. and Mrs. John Gilmour, a daughter. Mrs. Gilmour was Miss Stella Winnett, Victoria Hospital, London, Ont., class 1914.

BOARDMAN—At Winnipeg, on September 28, 1917, to Dr. and Mrs. Boardman (Jessie Duncan, W.G.H. '07), a daughter.

GLIDDON—To Dr. and Mrs. W. O. Gliddon, 2010 O'Connor Street, Ottawa, a daughter (Joan). Mrs. Gliddon was Miss Elizabeth Turner, 1911.

AMEY—At Mrs. Reynolds' Private Hospital, Grant Avenue, Hamilton, on October 29th, a son to Mr. and Mrs. Ralph Amey.

Marriages

RIDGES-HIBBERT—In Halifax, by the Rev. N. Lemoine, Nursing Sister Julia Hibbert, of the Station Hospital, formerly of Ireland, to Lieut. Robert V. Ridges, R.N.C.V.R., of the H.M.C.S. "Niobe." On their return from a trip to New York they will reside at 328 Gottingen Street, Halifax.

OPPER-BURDICK—At London, Ont., on September 15th, 1917, Mr. W. H. Opper to Miss P. Phyllis Burdick (V.H.L. 1911). Miss Burdick was Supervisor of School for Nurses in London for three years.

DOUGLAS-MUNNOCK—At St. John's Parish, Eastbourne, England, Miss Agnes Munnock, C.A.M.C., to Dr. Clare Douglas. Miss Munnock was a graduate of V.H.L., 1913.

EVANS-SCOTT—In Winnipeg, October 9th, 1917, Miss H. Margaret Scott (R.V.H. 1909), to Mr. Richard G. Evans.

HENDERSON-MCKEEN—The marriage took place on September 29th, 1917, in England, at the Parish Church, Harlington, Hounslow, of Capt. Arthur T. Henderson, 6th Can. Field Ambulance Corps, of Montreal and Jamaica, to Nursing Sister Frances C. McKeen, C.A.M.C. (R.V.H.) of North Bay, N.S. The bride was given away by Col. H. H. Chisholm, D.S.A. Among those present were Surgeon-General G. L. Foster, C.B., and Mrs. Foster, Mrs. Chisholm, Matron-in-Chief MacDonald, Mrs. Carpenter (Montreal), Matron McLatchy, and several members of the C.A.M.C.

DREW-MARIO—On September 15th, at the home of the bride, Point Fortune, Que., Elizabeth Marion (Bessie) class '15, M.W.H., to Mr. James Alexander Drew, of Beech Ridge, Que.

FRASER-GRANT—At Listowel, Ont., on November 3rd, Miss Iola Grant (H.C.H.) to Mr. George Albert Fraser.

MITCHELL-OVERHOLT—In Hamilton, in October, Miss Lillian Jane Overholt (H.C.H.) to Mr. James Law Mitchell. Mr. and Mrs. Mitchell will reside on Main Street East, Hamilton.

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